

WHAT IS CLAIMED IS:

1. A power generator unit comprising a housing, an engine within the housing, a starter motor cooperating with the engine to selectively drive at least one moveable component of the engine, a battery selectively connected to the starter motor, a converter disposed between the battery and the starter motor for converting the power of the battery into an output to drive the starter motor, both the battery and the converter being disposed in close proximity to each other.

2. The power generator unit of Claim 1, wherein the engine has a crankshaft, a fan is driven off one side of the crankshaft, and a generator is driven off the other side of the crankshaft.

3. The power generator unit of Claim 2, wherein the engine directly drives a flywheel that comprises the fan.

4. The power generator of Claim 2, wherein the housing includes at least two air intake openings and the fan is connected to the crankshaft on the side of the engine closest to at least one of the two air intake openings.

5. The power generator of Claim 4, wherein the housing also encloses the generator.

6. The power generator unit of Claim 5, wherein the housing additionally includes a discharge opening, and the air intake openings are disposed on one side of the housing, the fan is arranged to draw in external air through the air intake openings, the engine being disposed downstream of the flywheel within at least two cooling air paths, and the discharge opening is disposed downstream of the engine, whereby cooling air flows through the cooling air paths when the engine drives the fan to draw external air through the air intake openings to cool the battery, the engine, the generator, and a muffler, and thence to discharge heated air through the discharge opening.

7. The power generator unit of Claim 6, wherein the muffler is disposed between the engine and the discharge opening so as to lie within an exiting cooling air path.

8. The power generator unit of Claim 4, wherein the battery lies directly behind at least one air intake opening.

9. The power generator unit of Claim 2, wherein the housing encloses the generator and includes a bottom portion, and the engine, the generator, and the battery are each mounted to the bottom portion of the cover.

10. The power generator unit of Claim 9 additionally comprising a fuel tank mounted generally above the engine.

11. The power generator unit of Claim 2, wherein the housing includes at least one portion comprising a sound insulating material.

12. A power generator unit comprising an engine including an engine body that defines at least a principal part of a crankcase, a muffler communicating with the engine, a generator being driven by the engine, at least one fan driven by the engine, a cover enclosing at least the fan and including at least two air intake openings and at least one air outlet opening, a battery, a DC/DC converter, an electric starter, an electronic control module communicating with at least one of the engine and generator so as to control at least one operational characteristic of the power generator, the electronic control module positioned immediately next to, but spaced apart from at least one of the air intake openings, the battery positioned immediately next to, but spaced apart from the other air intake opening, the DC/DC converter positioned immediately next to but spaced apart from the battery, each intake opening communicating with a cooling air passage defined within the cover, and at least one baffle defining at least two cooling air paths that extend over different portions of the engine and that merge together to cool a muffler before exiting the outlet opening, each cooling air path communicating with the cooling air passage within the cover.

13. The power generator unit of Claim 12, wherein the engine has a crankshaft disposed primarily within the crankcase, the fan is driven off one side of the crankshaft, and the generator is driven off the other side of the crankshaft.

14. The power generator unit of Claim 13, wherein the electronic control module is disposed within the cover and generally next to the position of a gas tank.

15. The power generator unit of Claim 12, wherein the engine directly drives a flywheel that comprises the fan.

16. The power generator of Claim 12, wherein the cover also encloses the engine and the generator.

17. The power generator of Claim 12, wherein the fan is connected to the crankshaft on the side of the engine closest to the air intake openings.

18. The power generator unit of Claim 17, wherein the air intake openings are disposed on one side of the cover, the fan is arranged to draw in external air through the air intake openings, the engine being disposed downstream of the flywheel within the cooling air paths, and the discharge opening being disposed downstream of the engine, whereby cooling air flows through the cooling air passage and cooling air paths when the engine drives the fan to draw external air through the air intake openings to cool the electronic control module, the battery, the DC/DC converter, the engine, the generator, and the muffler, and thence to discharge heated air through the discharge opening.

19. The power generator unit of Claim 18, wherein the muffler is disposed between the engine and the discharge opening so as to lie within an exiting cooling air path.

20. The power generator unit of Claim 12, wherein the cover encloses the engine and the generator and includes a bottom portion, and the engine, the generator, the battery, and the DC/DC converter each being mounted to the bottom portion of the cover.

21. The power generator unit of Claim 20 additionally comprising a fuel tank mounted generally above the engine and arranged within the cover to lie next to the electronic control module.

22. The power generator unit of Claim 12, wherein said electronic control module lies directly behind at least one air intake opening.

23. The power generator unit of Claim 12, wherein the cover includes at least one portion comprising a sound insulating material.

24. A power generator unit comprising a cover having at least a first air intake opening, a second air intake opening, and a discharge opening, an engine including a first body portion that defines, at least in part, a combustion chamber, a second body portion that defines, at least in part, a crankcase chamber and is disposed next to the first body portion, and at least one muffler that receives exhaust gases from the combustion chamber, a generator driven by the engine, at least a first fan and a second fan, each fan driven by the engine, a battery, a DC/DC converter, and an electronic control module, the first and second air intake openings being disposed on one side of the cover, the battery and the DC/DC converter positioned next to the second air intake opening, the first fan

arranged to draw in external air through both air intake openings, the engine being disposed downstream of the first fan, and the discharge opening being disposed downstream of the engine, whereby a first cooling air path occurs when the engine drives the first fan to draw external air through both air intake openings to cool at least the electronic control module, the battery, the DC/DC converter, and the first body portion of the engine and thence to discharge heated air through the discharge opening, the second air intake opening being disposed relative to the first and second fans such that at least a portion of external air drawn through both air intake openings passes through air vents located in the generator housing, through the second fan so as to produce a second cooling air path, and exits the cover through the discharge opening, the generator being disposed generally in the second cooling air path.

25. The power generator unit of Claim 24, wherein the second fan includes a rotatable blade and the generator housing is disposed around at least a side of the blade that faces away from the engine, the generator housing defining at least one influent opening for the air to enter the second fan, the effluent opening being disposed on a side of the generator housing.

26. The power generator unit of Claim 24, wherein the first body portion of the engine includes at least one cooling fin.

27. The power generator unit of Claim 24, wherein the muffler is disposed between the first body portion of the engine and the discharge opening so as to lie in both cooling air paths.

28. The power generator unit of Claim 24, wherein the muffler is offset generally to one side of a rotational axis of the second fan.

29. The power generator unit of Claim 24 wherein the electronic control module communicates with at least one of the engine and generator so as to control at least one operational characteristic of the power generator unit; and the module is disposed between the first air intake opening and the first fan.

30. The power generator unit of Claim 24 additionally comprising a guide member disposed on the generator housing to separate the first cooling air path from the second cooling air path, the guide member being configured to direct cooling air, which has flowed along the first cooling air path, away from the second cooling path as such

cooling air enters a space within the cover in which the muffler is housed and then exits through the discharge opening.